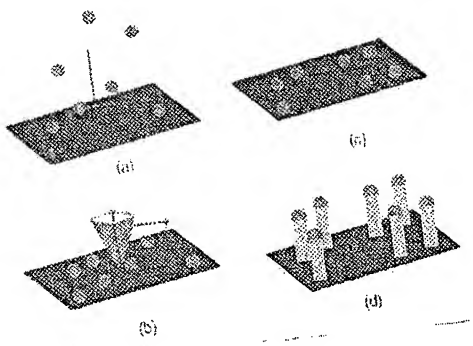


Figure 1

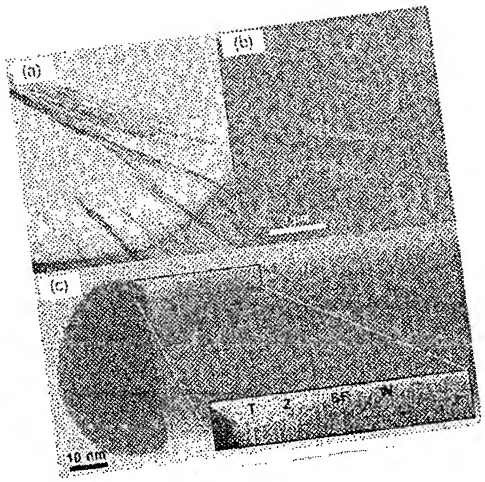
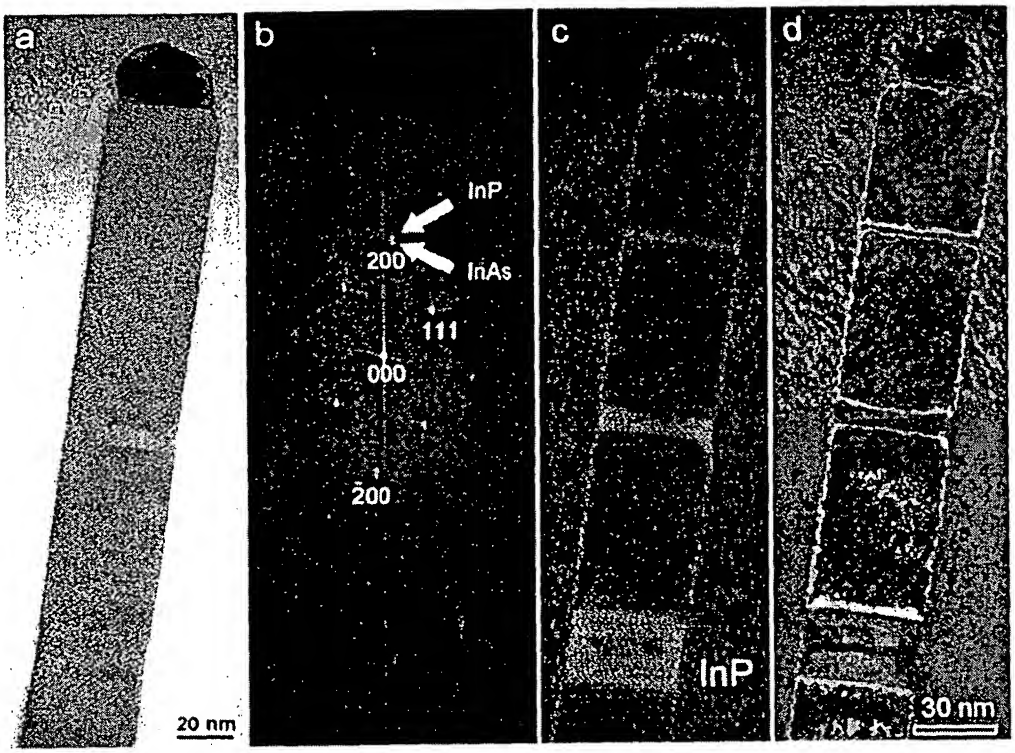


Figure 2

figure 4



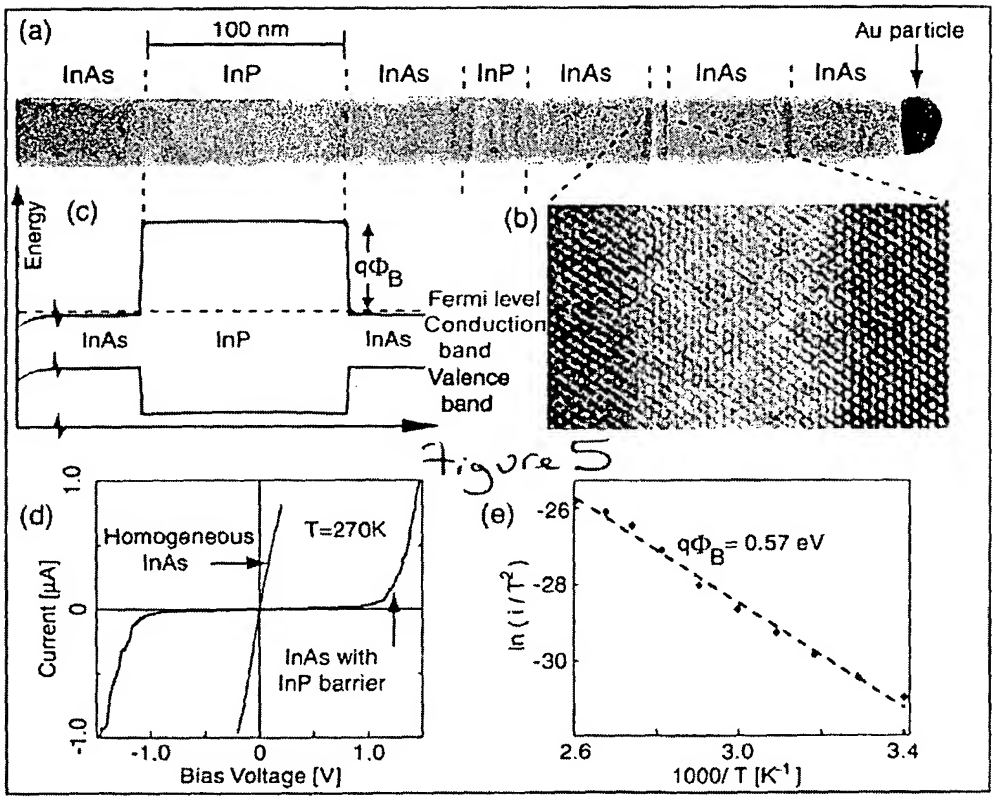


figure 5

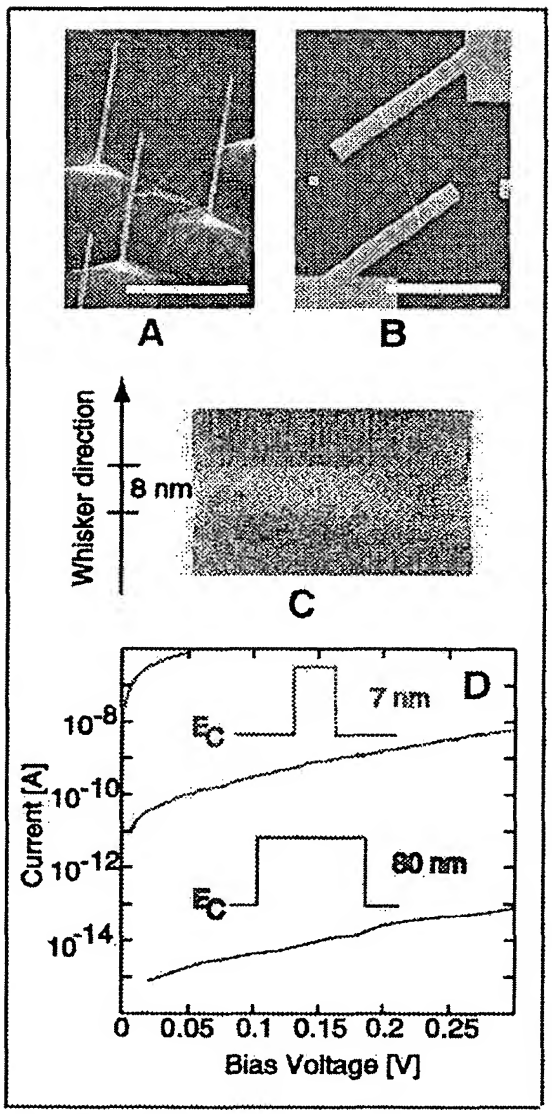

A
B
Whisker direction
8 nm
C
D
7 nm
80 nm
E_C
E_C
10^{-8}
10^{-10}
10^{-12}
10^{-14}
Current [A]
0
0.05
0.1
0.15
0.2
0.25
Bias Voltage [V]

Figura 6

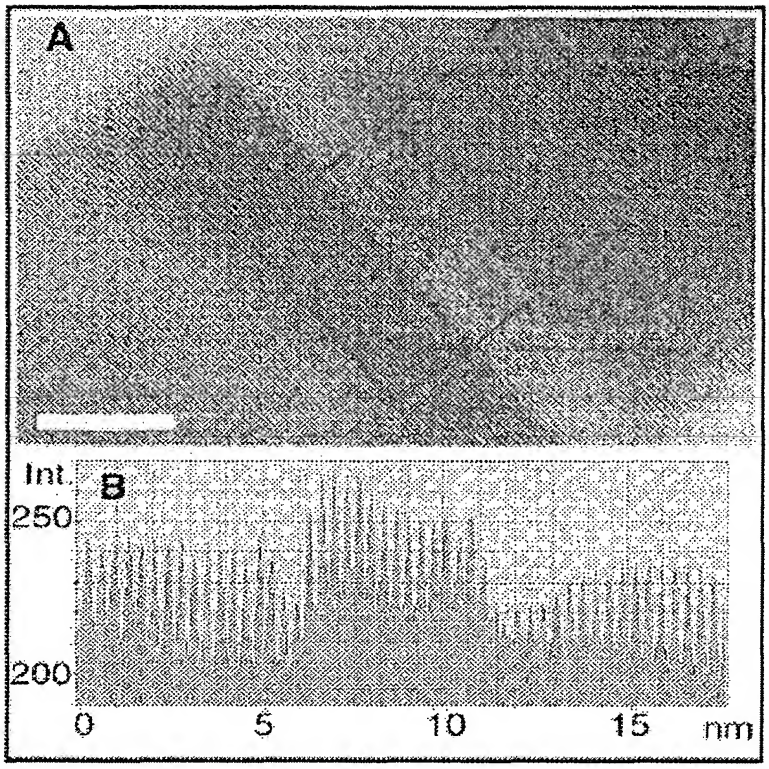


Figure 7

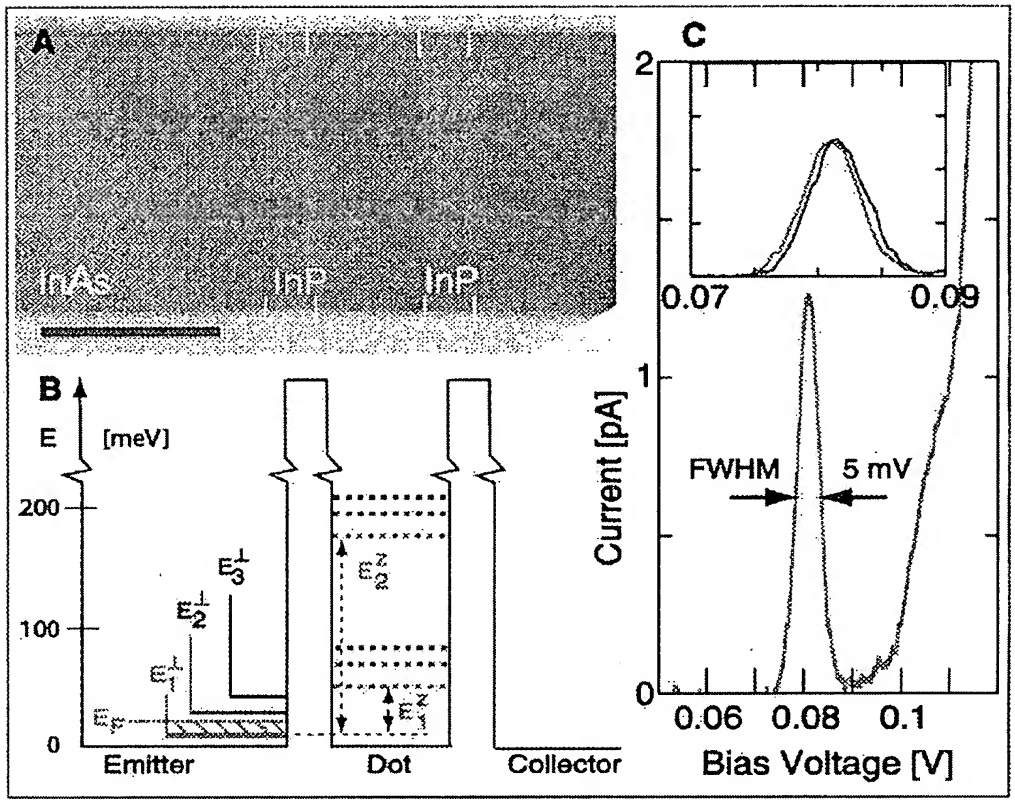

A
InAs
InP
InP
B
E [meV]
200
100
0
$E_3^\perp$
$E_2^\perp$
$E_1^\perp$
E_F
E_2^z
E_1^z
Emitter
Dot
Collector
C
2
1
0
0.07
0.09
FWHM
5 mV
Current [pA]
0.06
0.08
0.1
Bias Voltage [V]

Figure 8

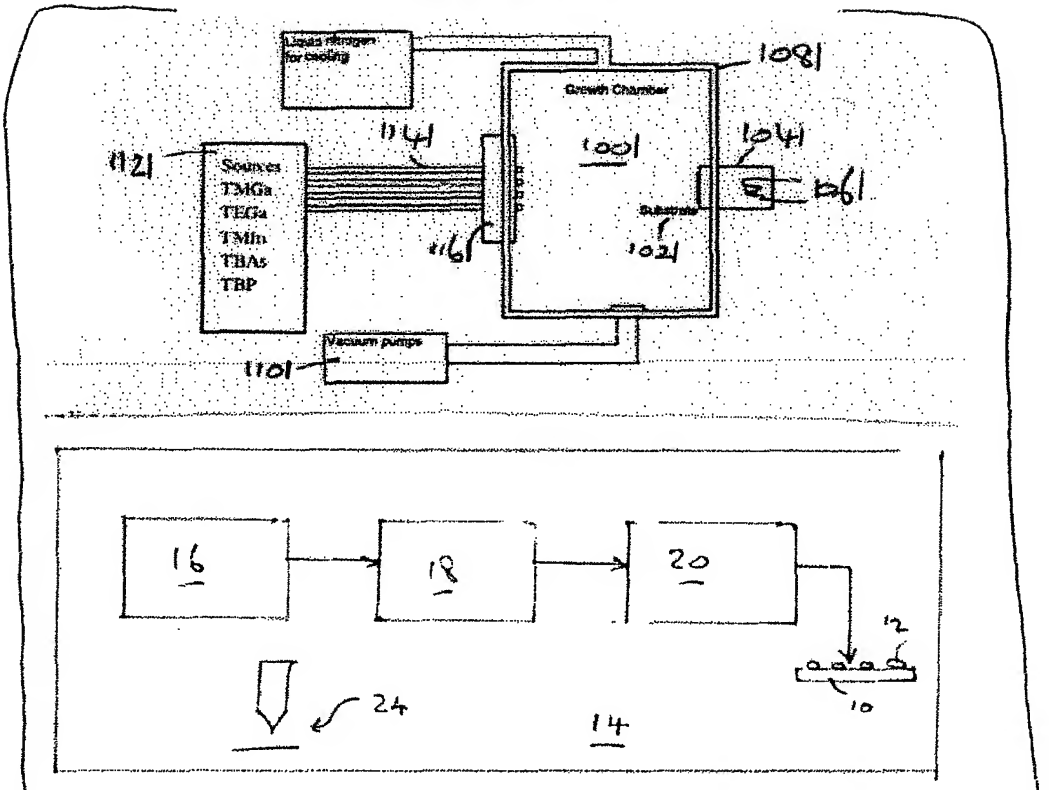
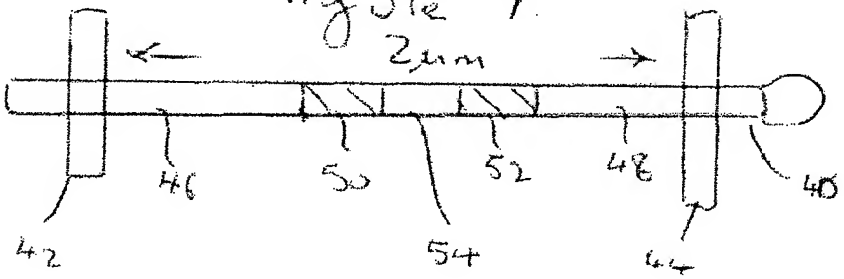


Figure 3

Figure 9



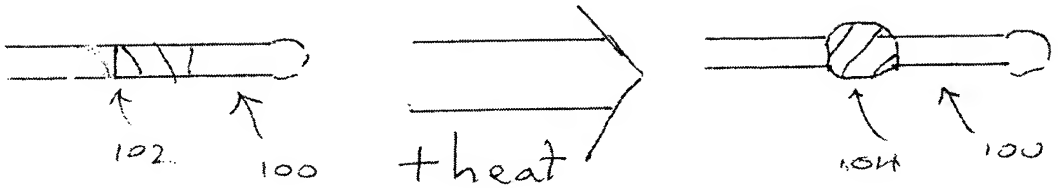
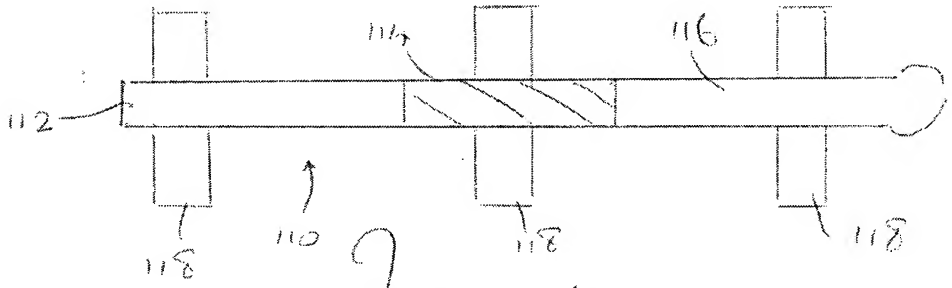


Figure 10



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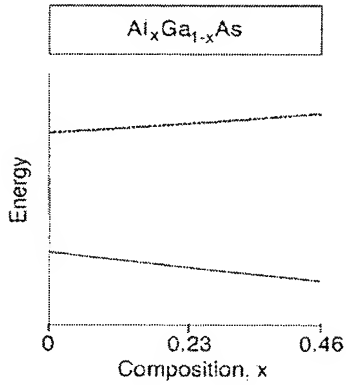


graded semiconductor

Figure 13

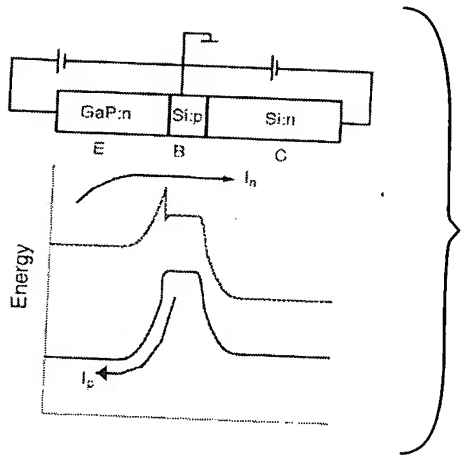


Figure 12

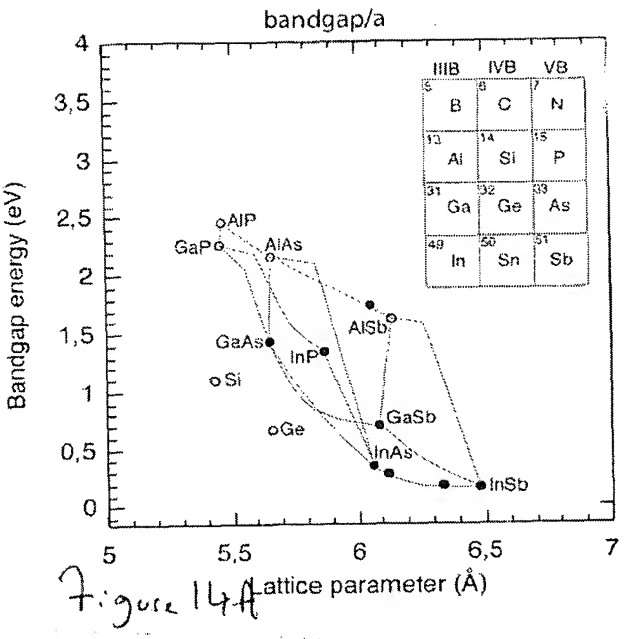


Figure 14A

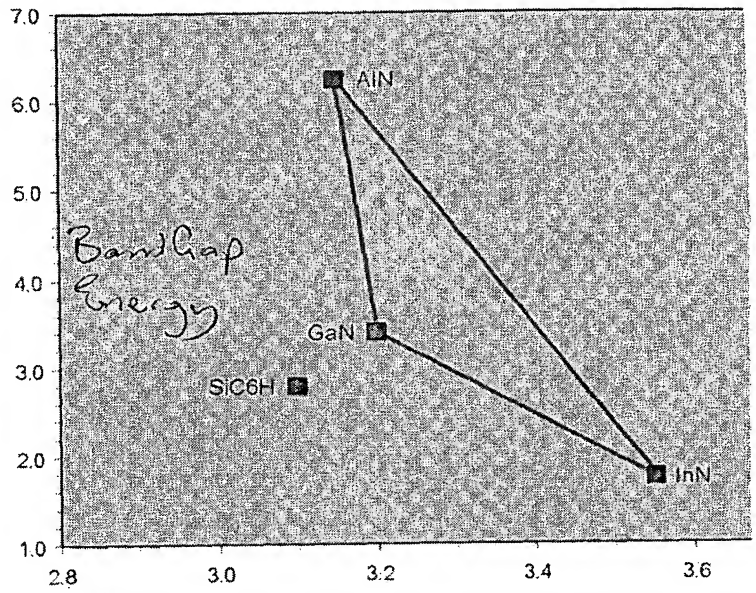
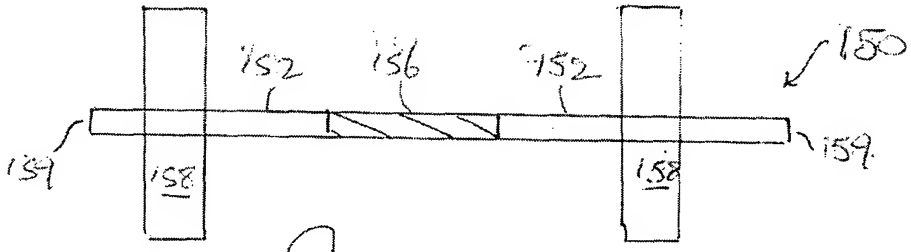


Figure 14B



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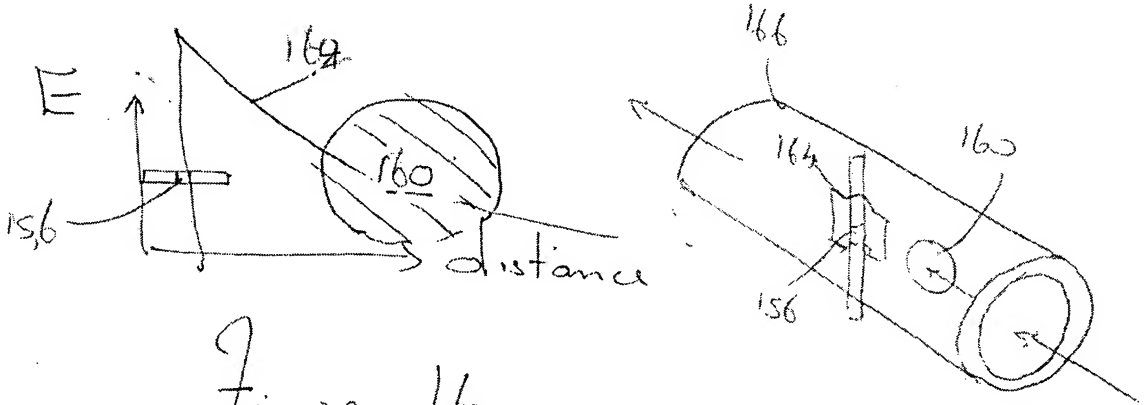
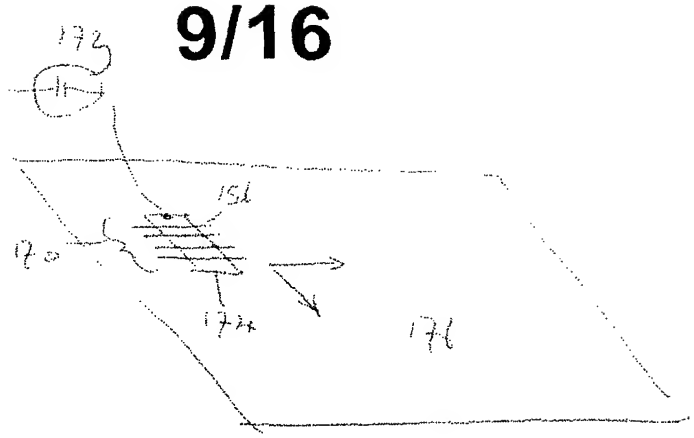


Figure 16



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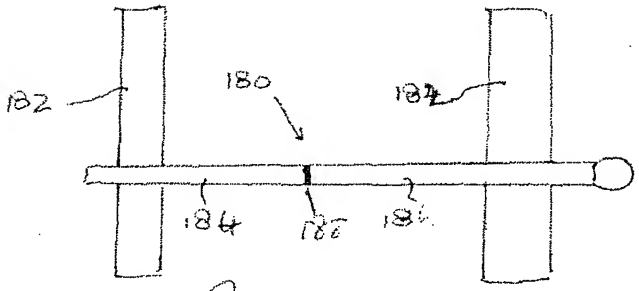


Figure 18A

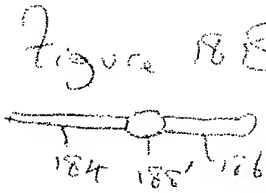


Figure 18B

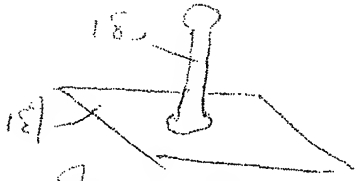


Figure 18C

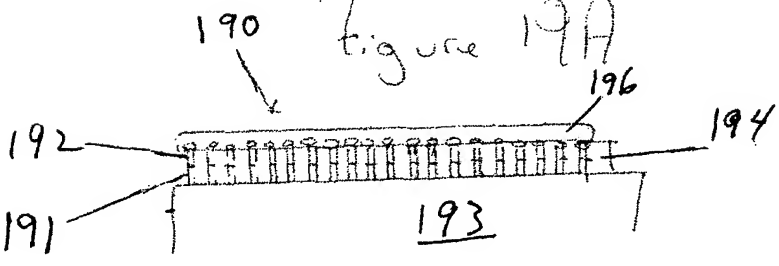


Figure 19A

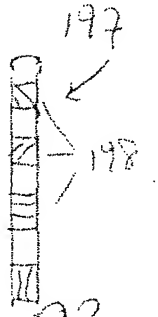


Figure 19B

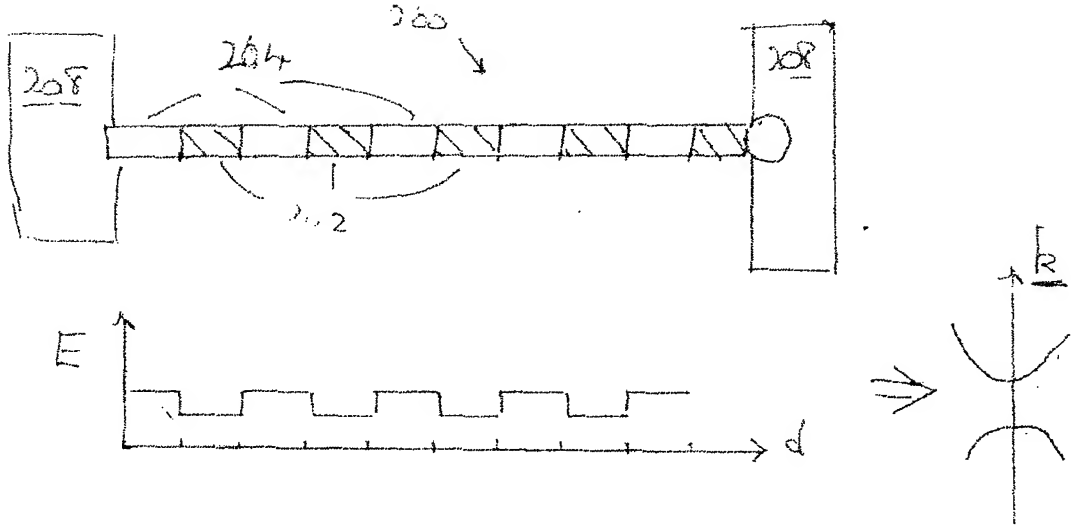


Figure 2D

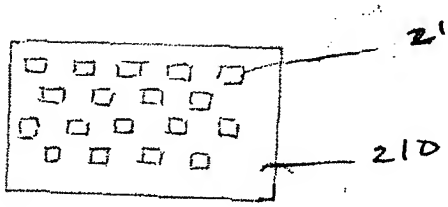


Figure 2.1A

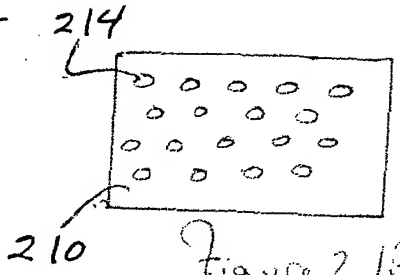
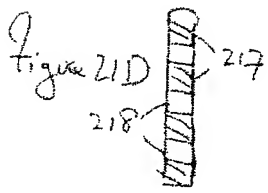


Figure 2.1B



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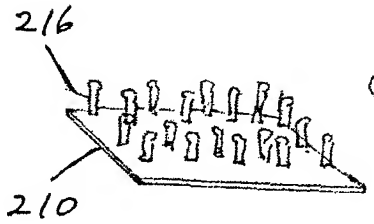

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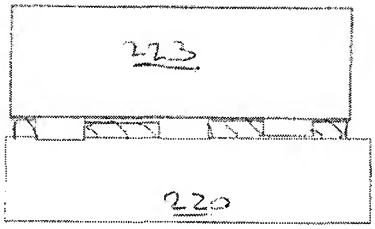
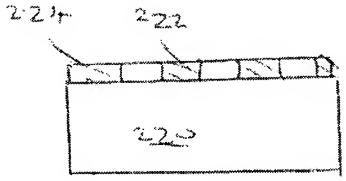


Figure 22A



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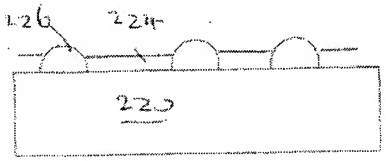

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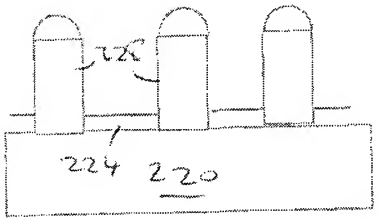

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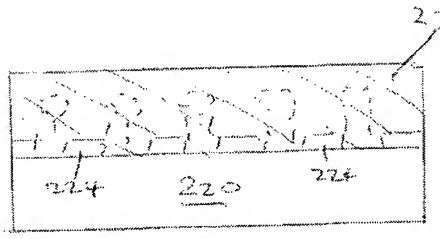

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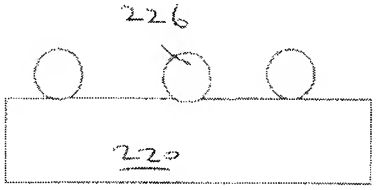

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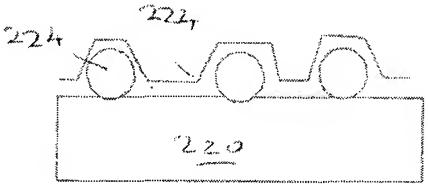


Figure 22G

12/16

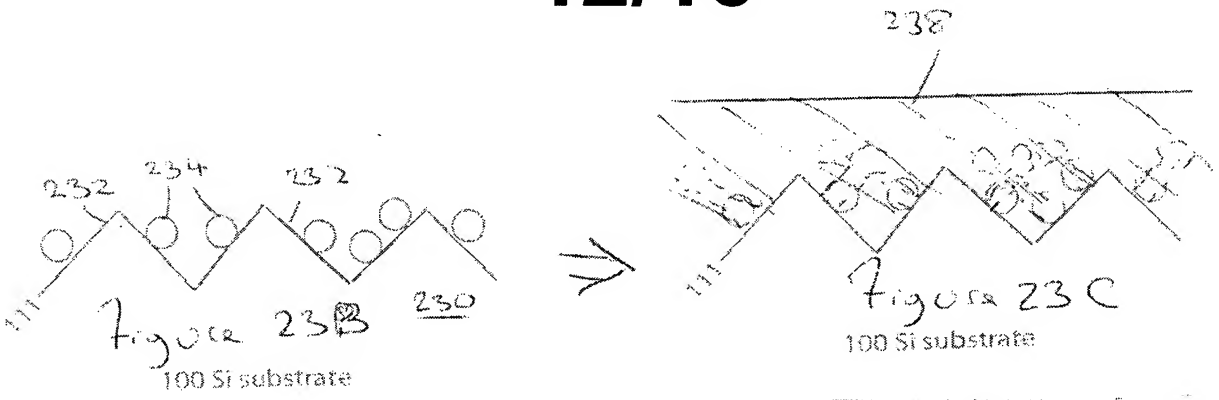


Figure 23B

Figure 23C

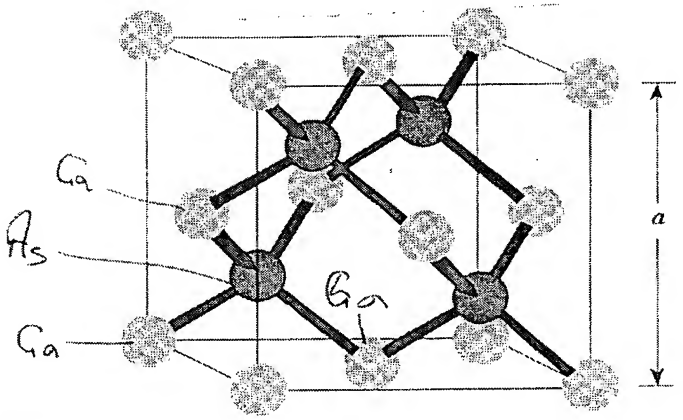
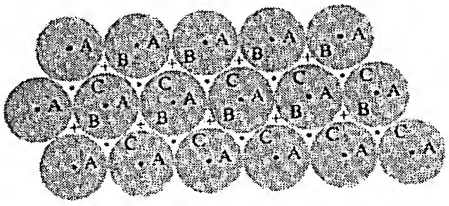
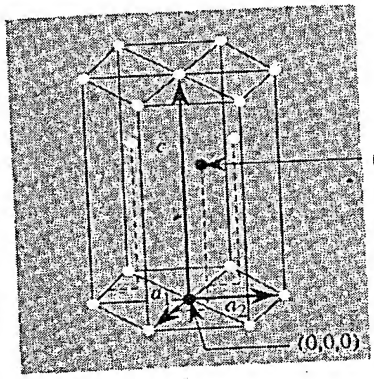


Figure 23A The zinc blende crystal structure. The structure consists of the interpene fcc lattices, one displaced from the other by a distance $(\frac{a}{4}\frac{a}{4}\frac{a}{4})$ along the body diagon underlying Bravais lattice is fcc with a two atom basis. The positions of the two atoms i and $(\frac{a}{4}\frac{a}{4}\frac{a}{4})$.





$|c| = |a_3| = 1.633\,|a_1|$
Two atoms per basis

$(2/3a_1 + 1/3a_2 + 1/2a_3)$

Figure 24A

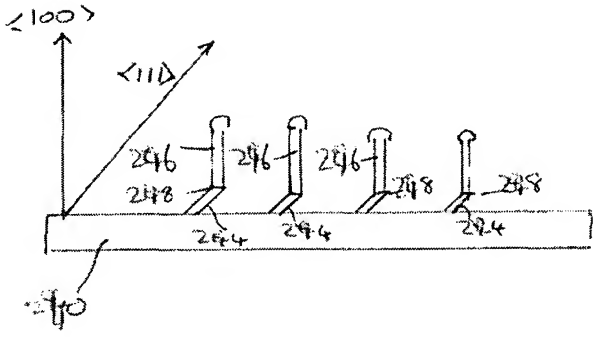


Figure 24B

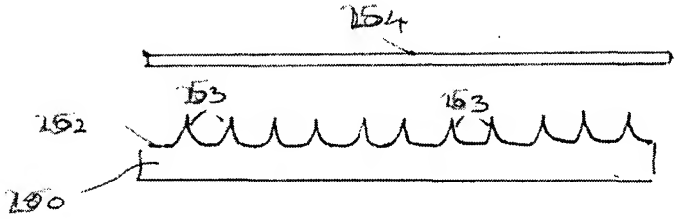


Figure 25A

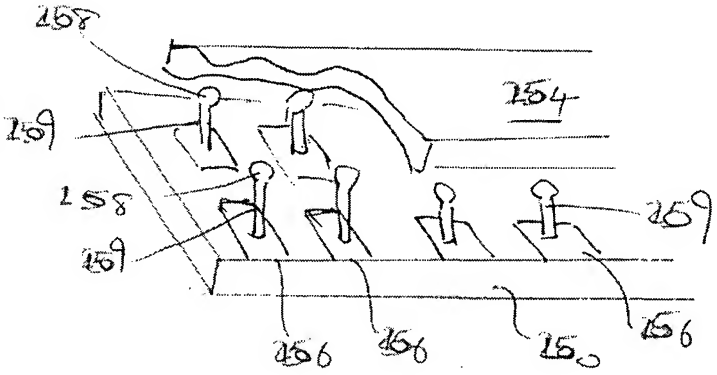


Figure 25B

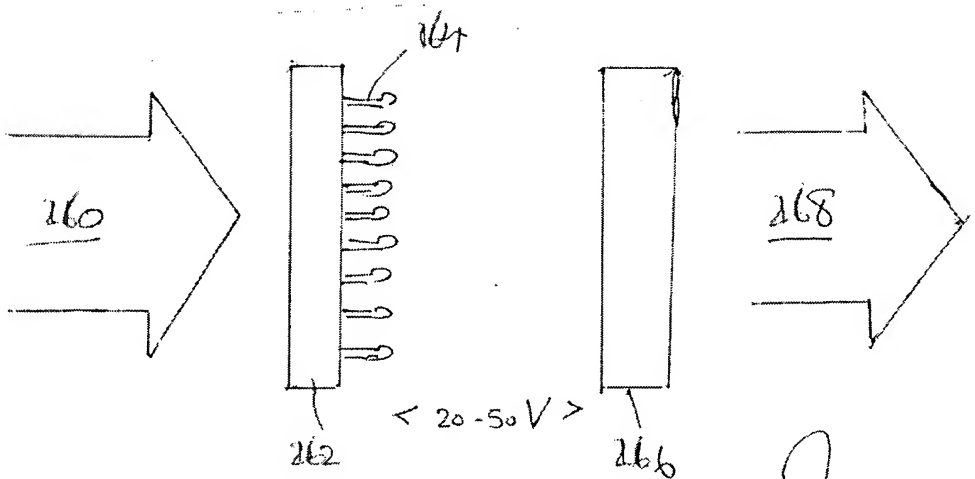


Figure 26

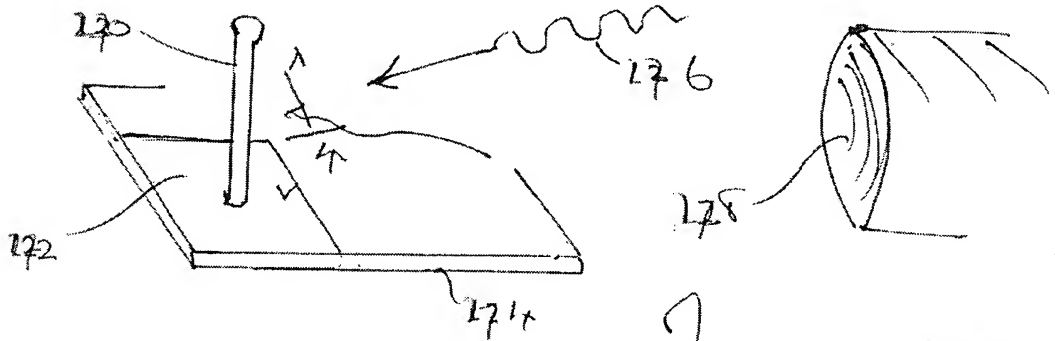
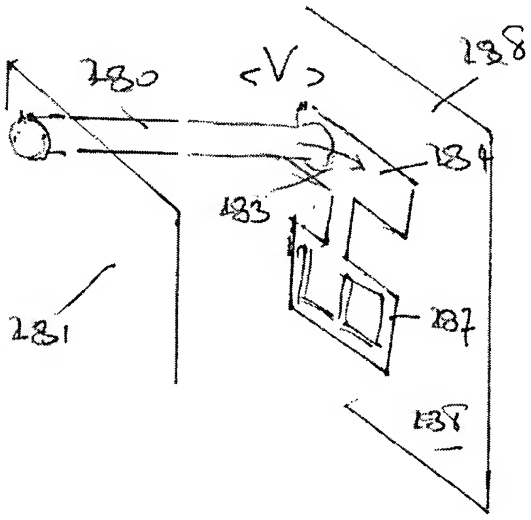


Figure 27



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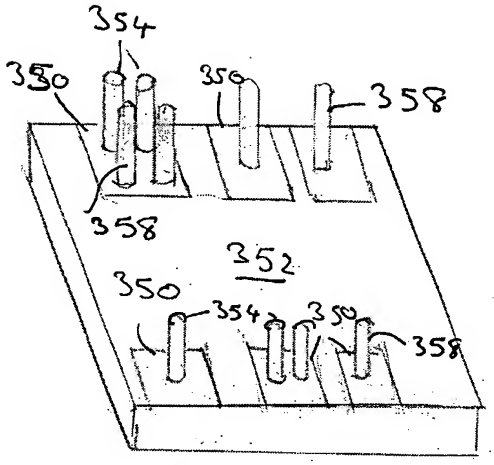

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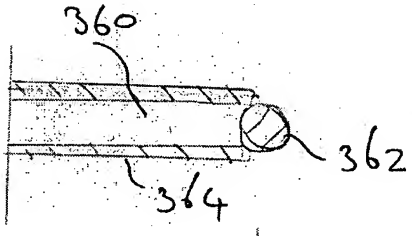

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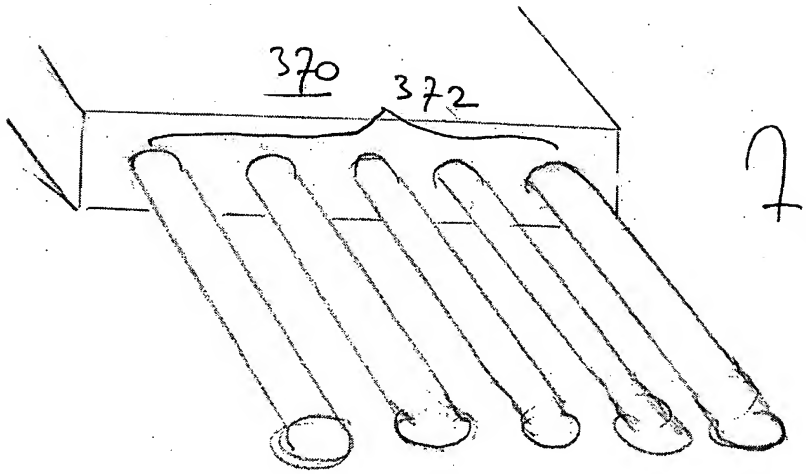

Figure 31

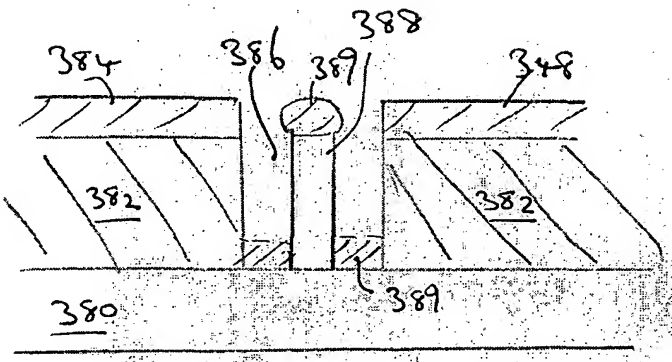

Figure 32

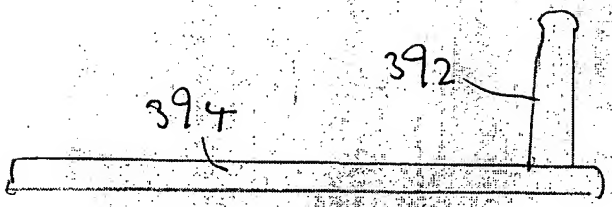

Figure 33